

DETAILED ACTION

This office action is in response to the Amendment filed on July 13, 2007. Claims 1-36 are pending in the current application. Applicants' arguments have been carefully considered, but are moot in view of the new ground(s) of rejection. All previously outstanding objections and rejections to the Applicant's disclosure and claims not contained in this Action have been respectfully withdrawn by the Examiner hereto.

Response to Amendment

1. Amendment to the specification overcomes the previous objection to the specification.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3, 13, 15, 25, and 27 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 1307, Figure 13.
4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37

CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: claims 25-36 refer to a computer program product comprising instructions encoded in a computer readable medium, however the specification does not disclose a computer readable medium.

Claim Objections

6. Claims 1,3-7, 11-13, 15-17, 21, 24, 25, and 27-36 are objected to because of the following informalities:

- a. claim 1, 13, and 25 the recitation of "the recipient", should be "a recipient", for example claim 1, line 7;
- b. claim 1, 3, 4, 25, and 27-28, the recitation of "completing step" should be "completing the transaction", for example claim 1, line 15;
- c. claim 3, line 1, the recitation of "the request", should be "a request";
- d. claim 5-7, 11-13, 25, 29-31 and 34-36, the recitation of "the message", should be "the asynchronous message", for example claim 5, line 3, 5 and 6;
- e. claim 5, line 6, the recitation of "the calling step", should be "the calling the operation";
- f. claim 6, line 3, the recitation of "transaction;", should be "transaction.";

- g. claim 15 and 16, the recitation of “completing the transaction”, should be “the transaction service to complete the transaction”, for example claim 15, line 3;
- h. claim 17, line 5, the recitation of “the calling step”, should be “the calling a second recipient”;
- i. claim 21 and 24, the recitation of “the unregistering step”, should be “unregistering passes a vote to the second transaction”, for example claim 21, line 2;
- j. claim 32 and 33, the recitation of “operation”, should be “as a temporary participant”, for example claim 32, line 2.
- k. Appropriate correction is required.

Double Patenting

7. Applicant is advised that should claims 10, 22, and 34 be found allowable, claims 11, 23, and 35 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

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1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-39 of copending Application No. 10/448269 (hereinafter APP269). Although the conflicting claims are not identical, they are not patentably distinct from each other because APP269 is directed to the same invention for a messaging system which enables transactional work, done as a result of a recipient processing an asynchronous message, to be involved in the transaction under which message was sent. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

As to claim 1, APP269 discloses a data processing method for a data processing system comprising a messaging service and a transaction service, the method comprising the steps of:

receiving a request, from a sender, to send an asynchronous message, comprising message data, to a queue, wherein the request is received under the scope of a transaction (claim 1, lines 5-8 of APP269);

registering a definition for the queue, the definition providing details of an operation provided by the recipient (claim 5, lines 1-6 of APP269);

processing the request to send a message by delivering the message, prior to completion of the transaction, to a recipient which is registered with the messaging service to process messages from the queue wherein the message is delivered to the recipient by calling the operation and including details of the message (claim 1, lines 10-13 and claim 6, lines 10-17 of APP269);

receiving one or more requests to register involvement of one or more participants in the transaction, wherein each participant represents transactional work done as a result of the recipient processing the message (claim 1, lines 15-19 of APP269); and

completing the transaction wherein the completing step comprises instructing each of the one or more participants to complete (claim 1, lines 21-23 of APP269);

whereby transactional work done, as a result of the recipient processing the message, is involved in the transaction under the scope of which the message was sent (claim 1, lines 25-28 of APP269).

As to claims 2-12 these claims correspond to claims 3-13.

As to claim 13 this claim is rejected for the same reasons as claim 1, see the rejection to claim 1 above.

As to claims 14-24 these claims correspond to claims 16-26.

As to claim 25 this claim is rejected for the same reasons as claim 1, see the rejection to claim 1 above.

As to claims 26-36 these claims correspond to claims 29-39.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the message is delivered by calling the operation or the definition of the queue and where is the definition of the queue being registered. For purposes of examination the message is delivered by calling the operation and the definition of the queue is being registered with the transaction service.

Claim Rejections - 35 USC § 101

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 25-36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 25-36 recite a “computer readable medium” and the specification fails to provide antecedent bases for this limitation [see objection to the specification above].

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Without antecedent basis for “computer readable medium”, it is unclear if the limitation intended to be the same as the storage media described as part of the disclosed program product or whether it's intended to be broader than the disclosed storage media. It is believed that the limitation “computer readable medium” is intended to claim something broader than the disclosed storage media and cover signals, waves and other forms of transmission media, that carry instructions. Therefore, the limitation “computer readable medium” is not limited to physical articles or objects which constitute a manufacture within the meaning of 35 USC 101 and enable any functionality of the instructions carried thereby to act as a computer component and realize their functionality. As such, the claims are not limited to statutory subject matter and are therefore non-statutory.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1-4, 13-16, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Strategies for Integrating Messaging and Distributed Object Transactions”, by Tai et al. (hereinafter Tai) in view of United States Patent 6,138,143 to Gigliotti et al. (hereinafter Gigliotti), and further in view of United States Patent 6,324,589 B1 to Chessell.

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17. As to claim 1, Tai teaches the invention substantially as claimed including a data processing method for a data processing system comprising a messaging service and a transaction service, the method comprising the steps of:

receiving a request, from a sender, to send an asynchronous message (page 314, lines 6-9), comprising message data (page 311, lines 6-10), to a queue (page 319, lines 30-31), wherein the request is received under the scope of a transaction (page 326, lines 30-31);

registering a definition for the queue (e.g. event channel for publishing event, col. 11, lines 19-25), the definition providing details of an operation provided by the recipient (e.g. data included in event, col. 7, lines 33-36);

processing the request to send a message by delivering the message (page 324, lines 5-7), prior to completion of the transaction, to a recipient, which is registered with the messaging service (e.g. recipient, subscriber, consumer page 312, lines 3-10) to process messages from the queue (page 323, lines 1-3).

Tai does not explicitly disclose registering a definition for the queue, the definition providing details of an operation provided by the recipient;

wherein the message is delivered to the recipient by calling the operation and including details of the message;

receiving one or more requests to register involvement of one or more participants in the transaction, wherein each participant represents transactional work done as a result of the recipient processing the message; and

completing the transaction wherein the completing step comprises instructing each of the one or more participants to complete;

whereby transactional work done, as a result of the recipient processing the message, is involved in the transaction under the scope of which the message was sent.

However Gigliotti teaches registering a definition for the queue (e.g. event channel for publishing event, col. 11, lines 19-25), the definition providing details of an operation provided by the recipient (e.g. data included in event, col. 7, lines 33-36);

wherein the message is delivered to the recipient by calling the operation and including details of the message (col. 11, lines 23-35);

receiving one or more requests to register involvement of one or more participants in the transaction (e.g. server objects, col. 7, lines 56-58), wherein each participant represents transactional work done (col. 7, lines 49-56) as a result of the recipient processing the message (e.g. event published by client, col. 7, lines 43-49); and

whereby transactional work done, as a result of the recipient processing the message, is involved in the transaction under the scope of which the message was sent (e.g. Transaction Context, 206, Fig. 4, col. 12, lines 13-16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have modified the transaction context of Tai with the teachings of a transaction context from Gigliotti because this feature would have provided a mechanism to address the shortcomings in known systems for asynchronous

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transaction processing in a distributed computing environment (col. 3, lines 32-35) utilizing a Transaction context which includes methods to add a participant in a transaction, register commit or rollback votes from participants, and can commit or rollback an entire set of operations and allow related objects access to uncommitted data (col. 6, lines 17-22 of Gigliotti).

In addition However Chessell teaches completing the transaction wherein the completing step comprises instructing each of the one or more participants to complete (col. 3, lines 42-50);

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have further modified the transaction service of Tai as modified by Gigliotti with the teachings of coordinator object from Chessell because this feature would have further provided a mechanism to keep track of which server objects are involved in the transaction, so that when the transaction is finished, each server object involved in the transaction can be told to commit the changes made locally to the local database associated with that server object, in a single unified effort (col. 3, lines 33-38 of Chessell).

18. As to claim 2, Tai as modified teaches a method as claimed in claim 1 wherein one of the one or more requests to register involvement one or more participants in the transaction, registers involvement of the recipient as a participant in the transaction (col. 7, lines 56-58 of Gigliotti).

19. As to claim 3, Tai as modified teaches a method as claimed in claim 2 wherein the request to register the involvement of the recipient as a participant in the transaction

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includes details of the queue (e.g. reference to client object in event, col. 8, lines 4-5 of Gigliotti), wherein the completing step instructs the recipient to complete by sending one or more messages to the queue (e.g. callback to client object, col. 8, lines 4-9 of Gigliotti).

20. As to claim 4, Tai as modified teaches a method as claimed in claim 2 wherein the request to register the involvement of the recipient as a participant in the transaction includes details of a second queue (e.g. 2nd event channel for publishing event, col. 11, lines 19-25 of Gigliotti) wherein the completion step instructs the recipient to complete by sending one or more messages to the second queue (e.g. S1 publishes new event 260, col. 11, lines 61-67 of Gigliotti).

21. As to claims 13-16, these claims are rejected for the same reasons as claims 1-4 respectively, see the rejections to claims 1-4 above.

22. As to claims 25-28, these claims are rejected for the same reasons as claims 1-4 respectively, see the rejections to claims 1-4 above.

23. Claims 5-12, 17-24, and 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Strategies for Integrating Messaging and Distributed Object Transactions”, by Tai et al. (hereinafter Tai) in view of United States Patent 6,138,143 to Gigliotti et al. (hereinafter Gigliotti) and further in view of United States Patent 6,324,589 B1 to Chessell, as applied to claim 1 above, and further in view of United States Patent 6,012,094 to Leymann et al. (hereinafter Leymann).

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24. As to claim 5, Tai as further modified by Chessell teaches a method as claimed in claim 1 wherein the transaction is a first transaction and the method comprises the further step of:

processing the message by the recipient (e.g. event published by client, col. 7, lines 43-49 of Gigliotti).

Tai as further modified by Chessell does not explicitly disclose wherein the step of processing of the message by the recipient comprises the steps of:

informing a second transaction of the first transaction, details of which were included with the message; and

calling a second recipient and as part of the calling step passing the message data to the second recipient for processing under the scope of the second transaction.

However Leymann teaches wherein the step of processing of the message by the recipient comprises the steps of:

informing a second transaction of the first transaction (T11 requests processing of stratus S2, Fig. 8, col. 13, line 22-24), details of which were included with the message (e.g. put message, col. 10, lines 24-26); and

calling a second recipient (e.g. stratus S4, Fig. 8) and as part of the calling step passing the message data to the second recipient for processing under the scope of the second transaction (e.g. T21 requests 821 processing of stratum S4, Fig. 8, col. 13, lines 26-29).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have further modified the distributed transaction processing of

Tai as modified with Gigliotti with the teachings of transaction stratification from Leymann because this feature would have further provided a mechanism to reduce the network traffic required to coordinate a collection of potentially distributed transactions (col. 13, lines 33-35 of Leymann).

25. As to claim 6, Tai as further modified, teaches wherein the processing of the message by the recipient comprises the further step of: starting (e.g. request processing of Leymann) the second transaction (e.g. T21 requests 821 processing of stratum S4, Fig. 8, col. 13, lines 26-29 of Leymann).

26. As to claim 7, Tai as further modified teaches wherein the processing of the message by the recipient comprises the further steps of:

prior to calling the second recipient, registering as a temporary participant in the second transaction (S1 registers as participant in transaction context 206, Fig. 4, col. 11, lines 61-64 of Gigliotti); and

on return from calling the second recipient (e.g. publishes new event to which S3 262 subscribes, col. 11, lines 65-67 of Gigliotti), unregistering (e.g. callback client of Gigliotti) as a temporary participant in the second transaction (col. 12, lines 5-9 of Gigliotti).

27. As to claim 8, Tai as further modified teaches a wherein as part of the unregistering step (e.g. callback of Gigliotti) a vote is passed to the second transaction, the vote comprising an indication as to whether the second transaction should commit or rollback (S1 252 votes 268 with transaction context 206 to commit or roll back the transaction, col. 12, lines 5-9 of Gigliotti).

28. As to claim 9, Tai as further modified teaches comprising the further step of:

in response to the unregistering step including a vote comprising an indication that the second transaction should rollback, marking the second transaction (e.g. store in Vote Table, Fig. 3A of Gigliotti) as rollback only (col. 9, lines 2-4 of Gigliotti).

29. As to claim 10, Tai as further modified teaches wherein the second transaction (e.g. stratum S4, Fig. 8 of Leymann) acts as a subordinate transaction to the transaction (e.g. stratus S2, Fig. 8 of Leymann), details of which were included with the message (e.g. T21 requests 821 processing of stratum S4, Fig. 8, col. 13, lines 26-29, using put message, col. 10, lines 24-26 of Leymann).

30. As to claim 11, Tai as further modified teaches wherein the second transaction (e.g. stratum S4, Fig. 8 of Leymann) acts as a nested transaction within the transaction (e.g. stratus S2, Fig. 8 of Leymann), details of which were included with the message (e.g. T21 requests 821 processing of stratum S4, Fig. 8, col. 13, lines 26-29, using put message, col. 10, lines 24-26 of Leymann).

31. As to claim 12, Tai as further modified teaches method wherein the second transaction acts as a nested transaction within the transaction, details of which were included with the message and the method comprises further the steps of:

in response to the unregistering step (e.g. callback of Gigliotti) including a vote comprising an indication that the second transaction should rollback (S1 252 votes 268 with transaction context 206 to commit or roll back the transaction, col. 12, lines 5-9 of Gigliotti):

rolling back the second transaction (col. 8, lines 19-20 of Gigliotti); and

restoring the message to the queue (the creator sends a message to each participant to rollback the transaction, col. 2, lines 43-46 of Gigliotti) (tx.rollback(), page 322, line 42 of Tai)

32. As to claims 17-24, these claims are rejected for the same reasons as claims 1-12 respectively, see the rejections to claims 5-12 above.

33. As to claims 29-36, these claims are rejected for the same reasons as claims 1-12 respectively, see the rejections to claims 5-12 above.

Conclusion

34. The prior art made of record on the accompanying PTO-892 and not relied upon, is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KimbleAnn Verdi whose telephone number is (571)270-1654. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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March 13, 2008

KV

/Li B. Zhen/

Primary Examiner, Art Unit 2194